AQA, OCR, Edexcel

GCSE

GCSE Maths

Cumulative Frequency Answers

Name:

M M E

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Total Marks: /30

Cumulative Frequency

1. Pete measured how many minutes late his school bus was over the course or 6 months.
   The results are summarised in the table below.

Delay (minutes)	Frequency	Cumulative Frequency
$0 < t \leq 2$	6	6
$2 < t \leq 4$	13	19
$4 < t \leq 6$	34	53
$6 < t \leq 8$	19	72
$8 < t \leq 10$	13	85
$10 < t \leq 12$	5	90

a. Use the information to complete the table.

(1 Mark)

b. Using the information from part a, on the grid draw a cumulative frequency diagram.

(2 Marks)

c. Use your cumulative frequency diagram to estimate the median.
= 5.5 – 6 minutes

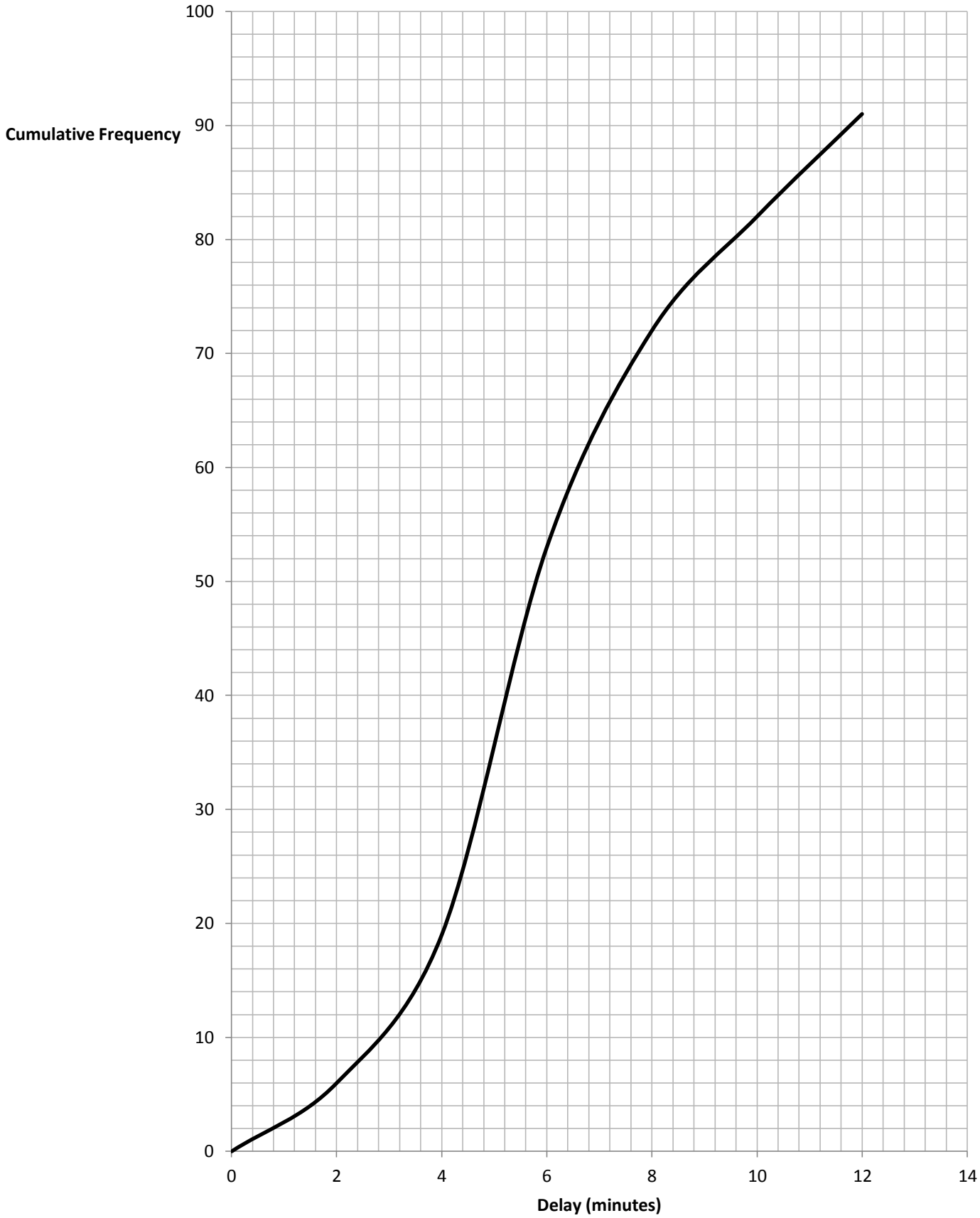
(2 marks)

d. Use your cumulative frequency diagram to estimate the interquartile range.
= 3-3.5

(2 Marks)

e. Emily says the bus is 9 or more minutes late more than 16 times over the past 6 months. Is Emily's statement correct?
= No, Only 12 times

(3 Marks)



2. Oliver picks 90 apples from apple trees in his garden.
   All the apples are weighed and their weights are summarised in the table below

Weight (g)	Frequency	Cumulative Frequency
$0 < t \leq 50$	5	5
$50 < t \leq 100$	11	16
$100 < t \leq 150$	27	43
$150 < t \leq 200$	24	67
$200 < t \leq 250$	13	80
$250 < t \leq 300$	10	90

a. Use this information to complete the table.

(1 Marks)

b. Use the information form Part a, on the grid draw a cumulative frequency diagram.

(2 Marks)

c. Use your cumulative frequency diagram to estimate the median.
   =155 g

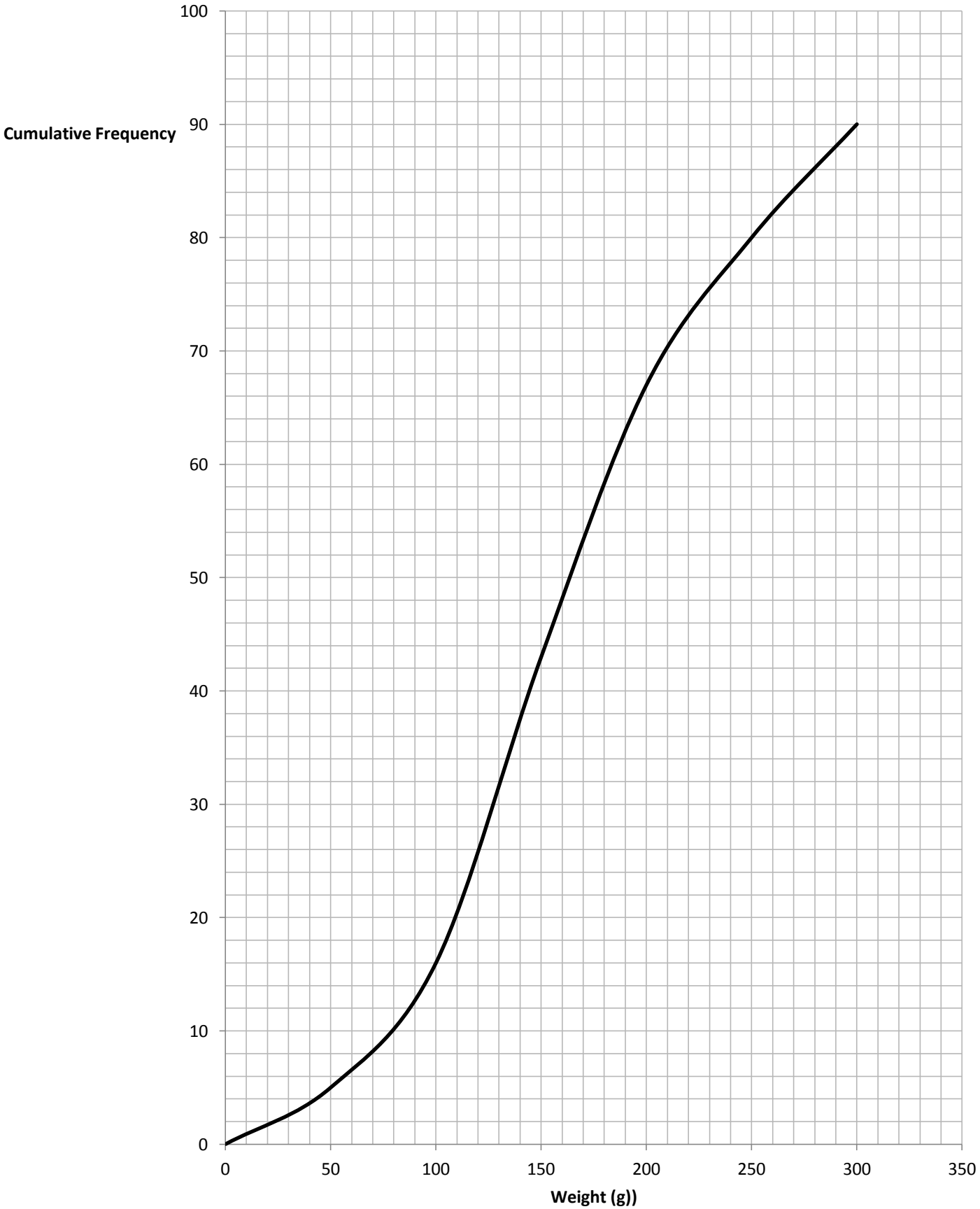
(2 marks)

d. Use your cumulative frequency diagram to estimate the interquartile range.
   = 90

(2 Marks)

e. Oliver wants to bake apple pies for all of his friends; he is only going to use all the apples which weigh more than 60g. Use your cumulative frequency diagram to estimate how many apples he will use.
   = 84 apples

(3 Marks)



3. Connor does a survey as to how much people spend over the Christmas period. The results are summarises in the table below.

Amount (£)	Frequency	Cumulative Frequency
$0 < t \leq 100$	2	2
$100 < t \leq 200$	15	17
$200 < t \leq 300$	39	56
$300 < t \leq 400$	52	108
$400 < t \leq 500$	25	133
$500 < t \leq 600$	11	144

a. Use the information to complete the table.

(1 Mark)

b. Using the information from part a, on the grid draw a cumulative frequency diagram.

(2 Marks)

c. Use your cumulative frequency diagram to estimate the median.
= 325

(2 marks)

d. Use your cumulative frequency diagram to estimate the interquartile range.
= 150

(2 Marks)

e. Connor spends £290, in the sample how many people spent more than Connor?
= 96 people

(3 Marks)